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Comparison of Different Analytic Heliospheric Magnetic Field Configurations and their Significance for the Particle Acceleration at the Termination Shock

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The heliospheric magnetic field configuration is important for the injection of pickup ions into an acceleration process at the termination shock and for the transport of cosmic rays within the heliosphere. There exist four different analytic approaches to describe the large-scale magnetic field. We compare the global properties of these fields by studying their deviation from an Archimedian spiral field (Parker field) by calculating the scalar product of the field vectors. Furthermore, we compare these global field configurations at the heliospheric termination shock, calculating the scalar product between the local magnetic field vector and the normal vector of the termination shock surface that is approximated as a triaxial ellipsoid. Finally, we discuss the observability of the different magnetic field configurations in view of the upcoming IBEX data.